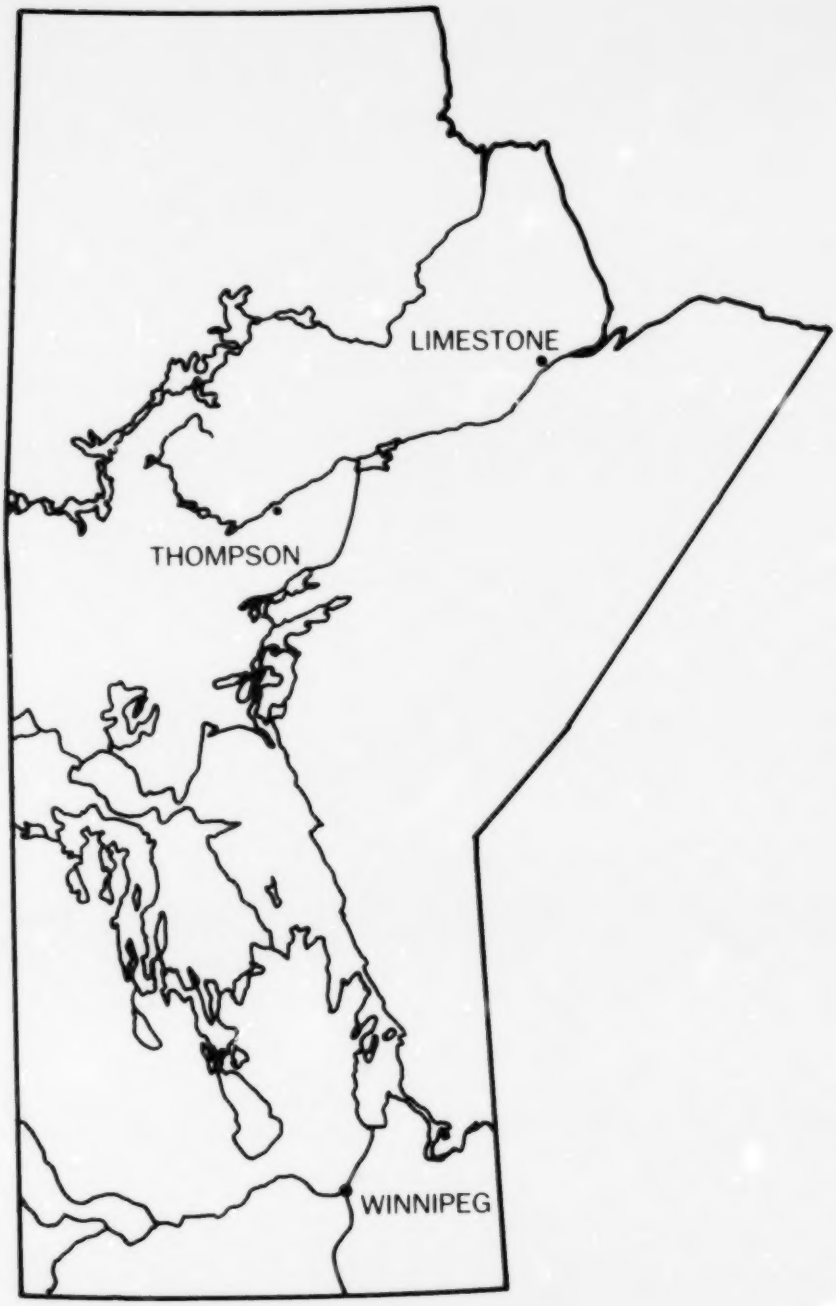
Potential Opportunities From Northern Hydro Development

Manitoba
Energy and Mines
Hon. Wilson D. Parasiuk
Minister

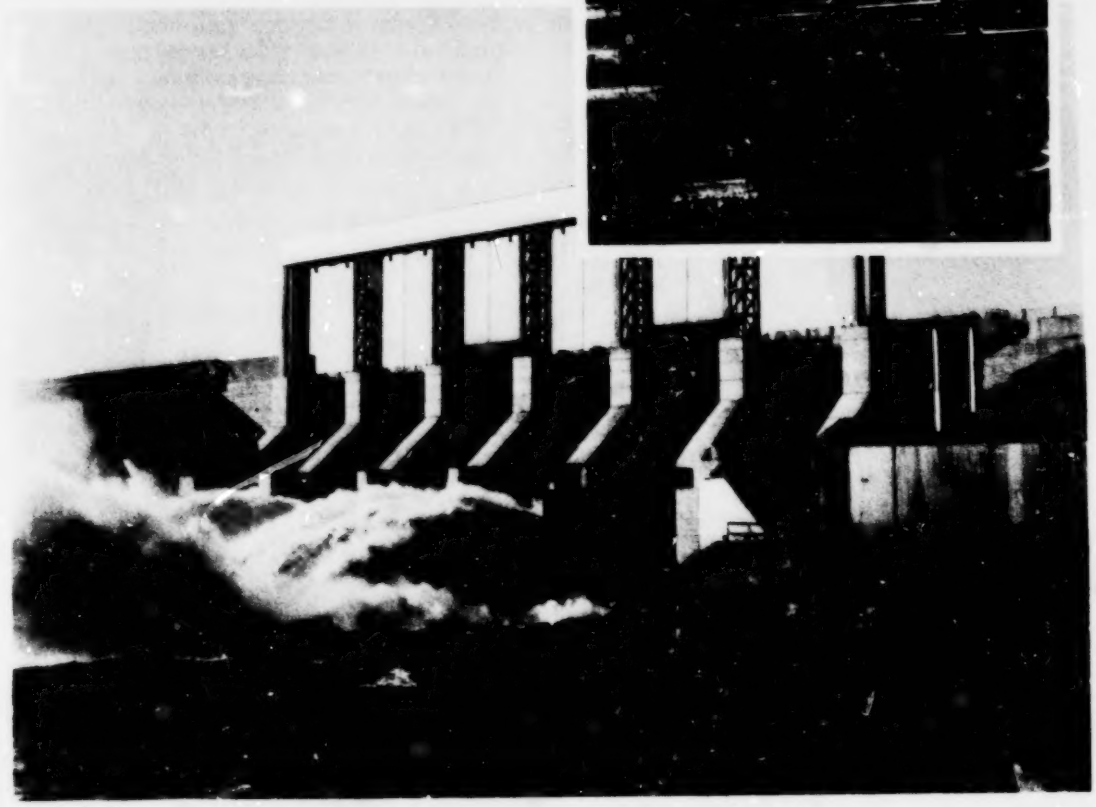

LIMESTONE
THOMPSON
WINNIPEG

Northern Hydro Development... Ensuring Our Economic Future

Hydro-electric power is Manitoba's greatest renewable natural resource. Hydro power development offers Manitobans the greatest potential for creating new economic growth.

Manitobans have chosen public ownership as the best way to develop this important resource. Manitoba Hydro is able to provide electricity to homes and businesses at prices that are among the lowest in North America.

The potential opportunities offered by new hydro developments are significant. As part of the Manitoba government's commitment to maximizing those potential opportunities for Manitobans, this brochure outlines how hydro development could benefit you.



Potential Export Sales

During the past five years, United States consumption of Manitoba electricity increased by 50 percent. Due to the marketing efforts carried out by your government, Manitoba has a unique opportunity to supply part of the growing electrical power demand of the United States.

Negotiations are currently being carried out with four different U.S. utility groups.

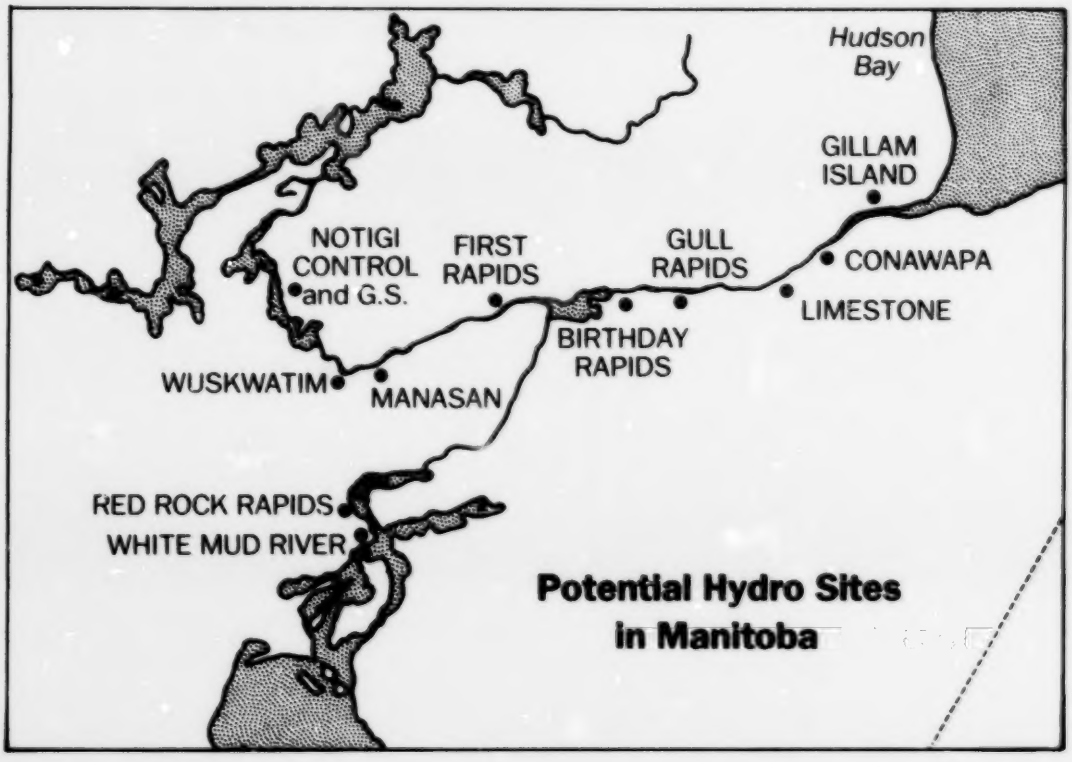
- Western Area Power Administration is negotiating the purchase of 1,200 megawatts of power per year for 35 years. Western is the U.S. federal agency that supplies power to 532 utilities in 15 states.

  1,200 megawatts would supply all electrical needs for about 60 towns the size of Steinbach or The Pas.

- Minnesota-Wisconsin Power Suppliers Group is negotiating the purchase of 1,100 megawatts per year for 15 to 30 years. This group is composed of nine investor-owned and co-operative utilities in North Dakota, Iowa, Minnesota and Wisconsin.

- A Wisconsin-Minnesota group of eight utilities is negotiating a possible purchase of 1,000 megawatts per year for 20 years. This group includes eight utilities in Wisconsin, Michigan and Minnesota.

- A letter of intent has been signed with the Nebraska Public Power District to exchange 700 megawatts per year on a seasonal basis. Completion of this agreement will require the construction of the 500 kilovolt Mandan transmission line from the Manitoba Hydro Dorsey substation near Winnipeg to Hoskins, Nebraska. Work is going ahead on selecting the best route for the transmission line.



N.S.P. Export Sale Advances Limestone

On June 14, 1984, Manitoba signed an agreement with Northern States Power (NSP) of Minneapolis, Minnesota to export 500 megawatts per year for 12 years. Transmission of this power begins May 1, 1993.

N.S.P. serves more than three million people in Minnesota, North Dakota, South Dakota, Wisconsin and Michigan. It will pay Manitoba an estimated $3.2 billion in revenue over the life of the contract. Manitoba will receive a profit of $1.7 billion.

Because of this sale, Manitoba Hydro is able to build the Limestone Generating Station at least one year earlier than previously scheduled. Manitoba Hydro is studying the situation to determine the most economical date to begin construction. The province will make a decision after consulting with interested groups.

At the same time, environmental impact studies are underway to ensure that any possible adverse consequences of construction are prevented.

—Sale is biggest ever—

completed the first of its mega-
e to a Minnesota

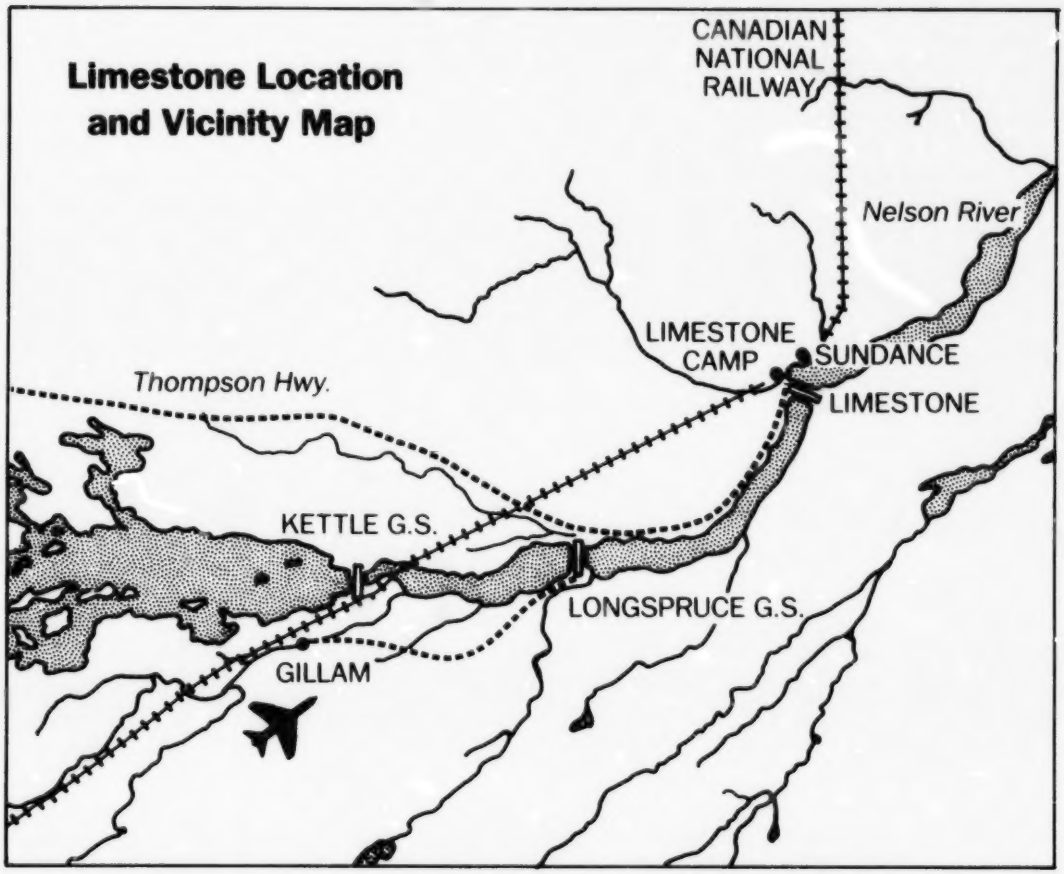
Province unveils $3.2-billion power deal to U.S. utility

wer sale, the largest in Manitoba
nounced yesterday by Energy
Parasiuk.
1993 the province will sell 500
wer worth about $3.20 million a
to Northern States Power Co. of

House

The Limestone Site

The Limestone Rapids are found on the Nelson River, 90 kilometres upstream from Hudson's Bay and about 750 kilometres by air north-east of Winnipeg.



Limestone will house ten massive turbine generators with a combined generating capacity of 1,200 megawatts. It will cost about $3.0 billion to build.

Construction workers will be housed at two locations — the Limestone campsite and the Sundance townsite.

Sundance is currently equipped to house 90 families. It will be expanded to accommodate 350 to 400 families, and will be a fully self-contained community with shopping facilities, a health clinic, a school, a curling rink, an indoor skating rink, an auditorium and a bowling alley.

The Limestone Campsite currently can house 700 workers in 350 double occupancy dwellings. This will be expanded to 1,400 housing units. Except in peak construction periods, individual units will house only one tenant. Like Sundance, the campsite will have extensive recreational facilities (curling, skating, soccer, baseball, gym, library, films and video) as well as a snack bar and beverage room.

Limestone can be reached directly by road and rail. The Gillam airport, about 50 kilometres away, allows access by air.

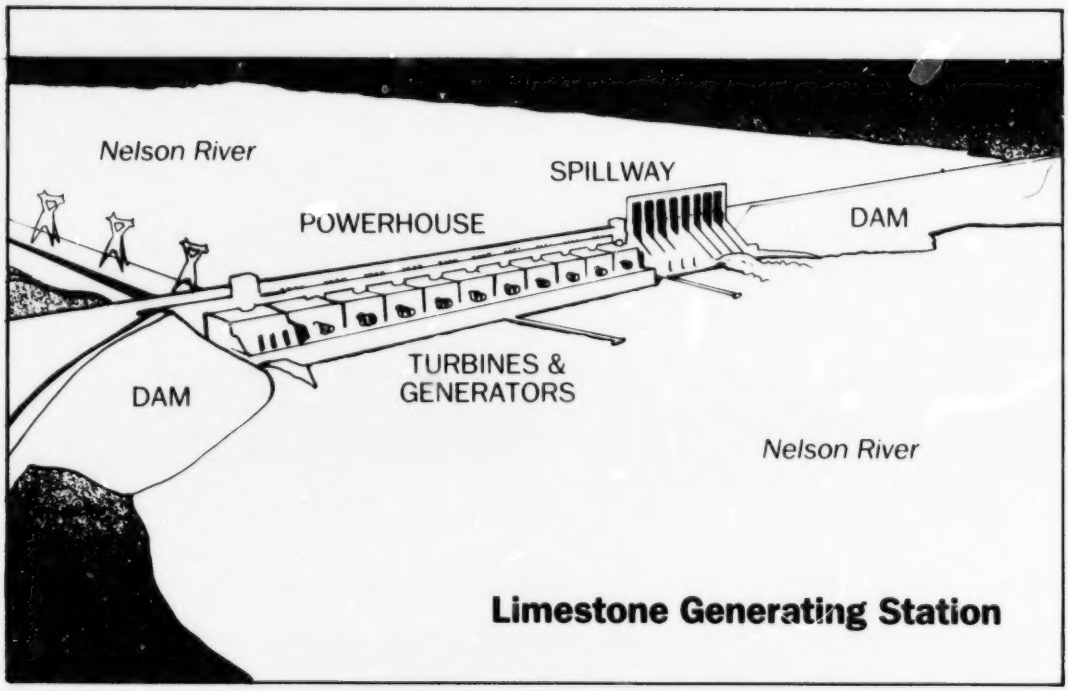
Limestone to Boost Manitoba's Economy

The Limestone project will take eight years to complete, but will be producing electricity six years after construction begins. During this period, 6,000 person years of construction employment will be created. During peak construction periods, as many as 1,800 men and women will be working on the dam site.

In addition to employment on the site, an additional 11,000 person years of indirect employment will be created. This "indirect" employment is created when construction workers and their families purchase goods and services and when people are employed by the many suppliers and manufacturers of materials for Limestone.

Over $1.5 billion in contracts will be tendered. Manitoba companies could receive a substantial portion of this work.

Building Limestone will help Manitoba's economy continue to grow. Building Limestone will keep unemployment low. The benefits will continue for many years.



Limestone Generating Station

A Hydro Generating Station Overview

A hydro-electric generating station has three parts:

Earth-Filled Dam — It interrupts the flow of the river.

Powerhouse — It houses the turbines and generators which produce electricity. Water enters the powerhouse on the upstream side, passes over the turbines, causing them to rotate, and exits downstream. The rotating turbine drives a shaft which turns the generator.

Spillway — When the river is at floodstage in the spring, it could potentially damage the generating station or the river banks upstream. The spillway is used to release excess water.

Limestone Construction Schedule

In a previous stage of construction, a huge cofferdam was extended from the north bank 2/3 of the width of the Nelson. This "Stage I Cofferdam" is where the north dam, powerhouse and spillway will be constructed. When the spillway is partially completed, water will be diverted through it while the cofferdam is extended all the way to the south bank. Within this "Stage II Cofferdam", the south dam will be constructed.

Over the eight year construction period, the following major activities will take place at Limestone:

Year 1 Expand the Sundance townsite and Limestone Campsite. Begin excavation within the existing Stage I Cofferdam for powerhouse and spillway.

Year 2 Townsite and campsite are completed. First concrete is poured for the powerhouse.

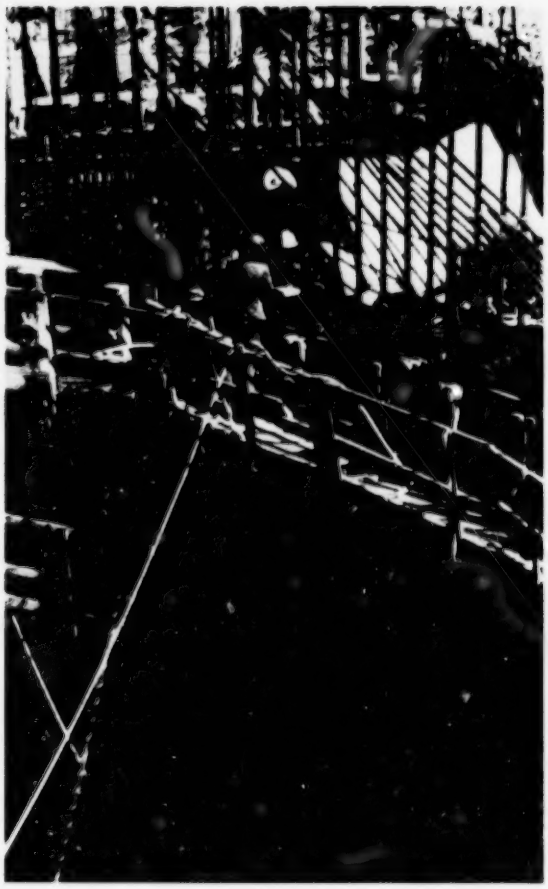
Year 3 Work on north dam begins.

Year 4 Stage II Cofferdam work begins. Work begins on the south dam and spillway gates.

Year 5 The Stage II Cofferdam is completed. Spillway gates are complete.

Year 6 The south dam is completed. Two generators are operational and producing electricity.

Over the next two years, the remaining eight generators will be brought into service.



Limestone Employment Opportunities

Limestone construction workers are to be hired under the terms of a collective agreement between the Hydro Projects Management Association and the Allied Hydro Council. Among other provisions, the contract stipulates that qualified Northerners will have first opportunity to be hired to work on the project.

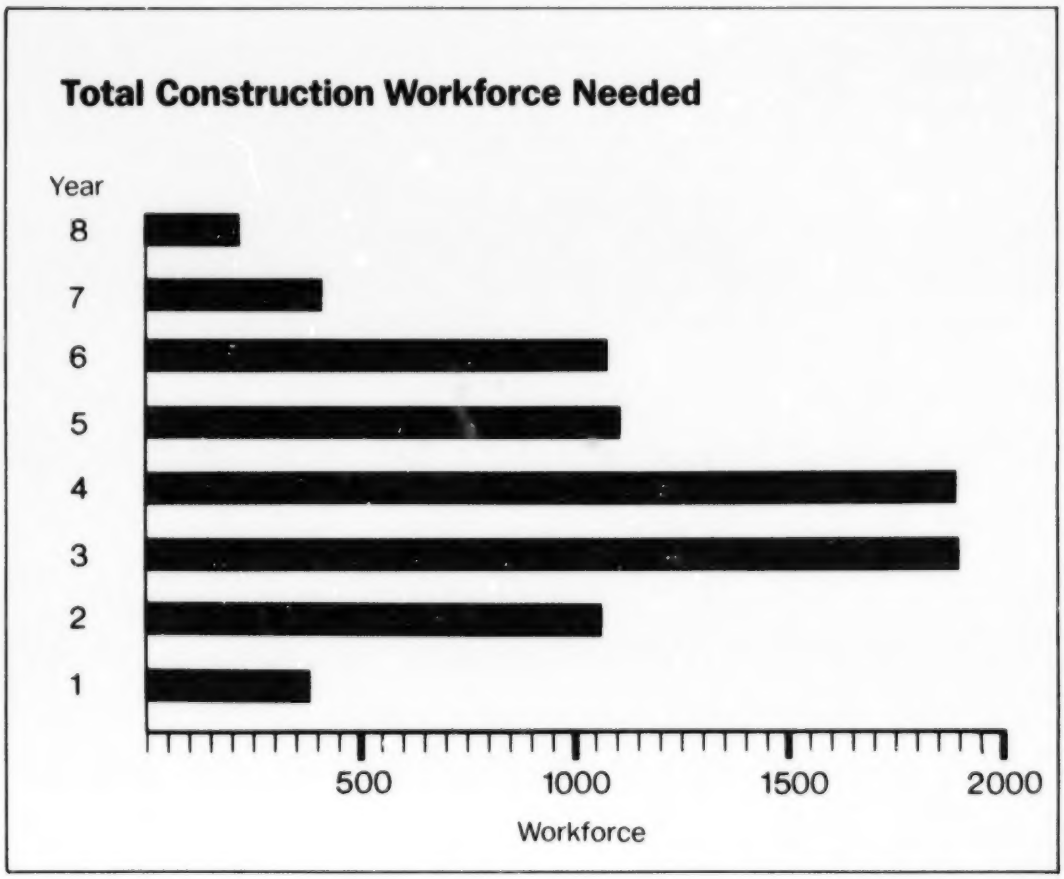
Major occupational categories include carpenters, labourers, operating engineers, teamsters, iron workers, pipefitters, electricians and service workers.

The number of people on the site will vary with the season and the progress of construction.

Little or no out-of-province hiring will be necessary.

Over the eight years, peak workforce requirements are estimated to be:

Year 1	380
Year 2	1160
Year 3	1800
Year 4	1800
Year 5	1190
Year 6	1070
Year 7	400
Year 8	222

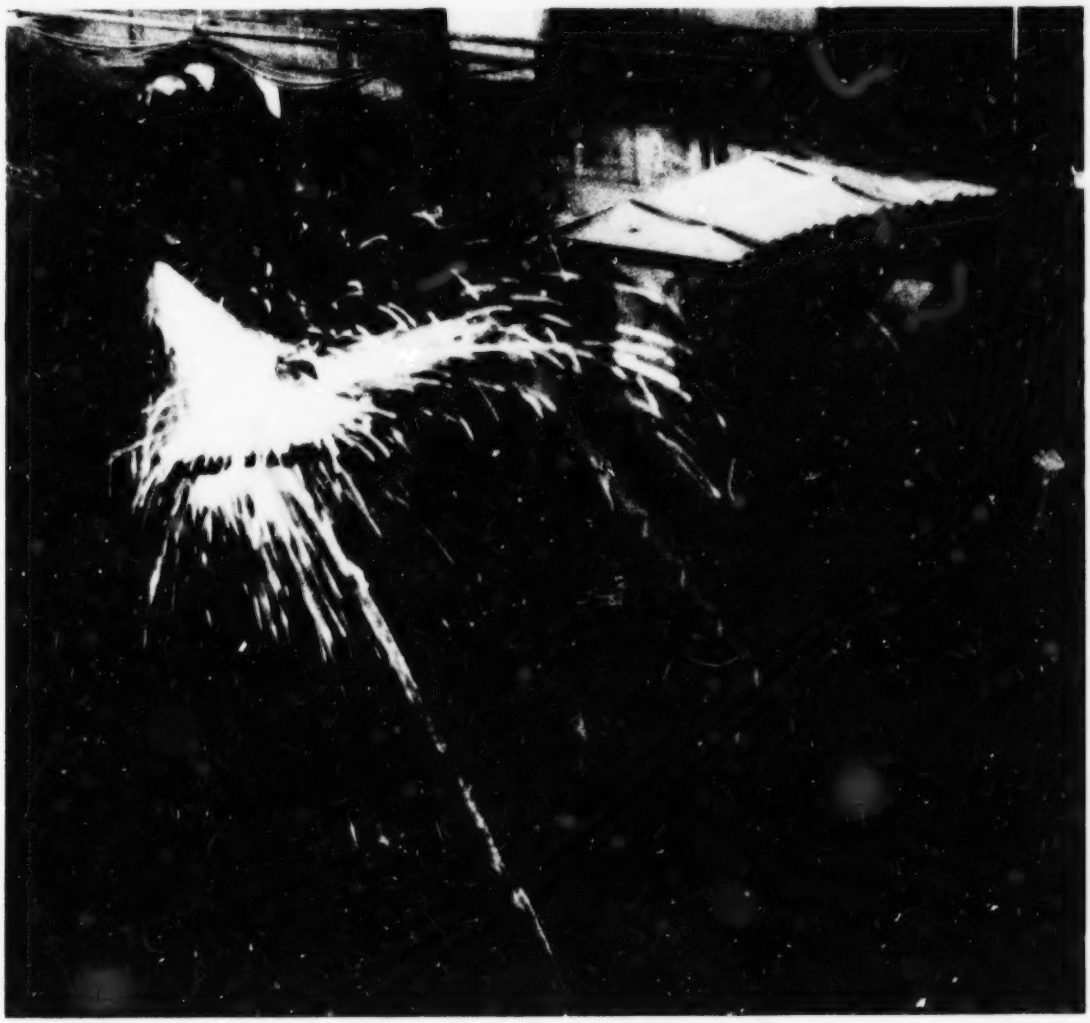


Limestone Training Opportunities

Unqualified people will have few, if any, employment prospects at Limestone. The Province recognizes this, and notes as well that relatively few Northerners have had the opportunity to acquire the job skills that will enable them to participate fully in the Limestone project.

Manitoba is firmly committed to establishing the kinds of training and apprenticeship programs that will enable Northerners to qualify for construction jobs and the more permanent post-construction jobs that will be available. Various options are being examined and advice and co-operation from labour and business is being sought.

We are determined to develop a qualified Northern Workforce which can benefit directly from Limestone and all future hydro developments.



Limestone Contract Opportunities

Contracts for Limestone present an opportunity for many Manitoba companies. With over $1.5 billion in contracts at stake, the Manitoba government is committed to assisting Manitoba companies to identify Limestone opportunities.

In today's tight economy, Manitobans must expect that competitors from all over the world will bid on Limestone contracts. Nevertheless, substantial contracts could go to Manitobans if government and business work together.

Manitoba Hydro will be awarding several large contracts that present opportunities for Manitoba companies. The General Civil Contract will be awarded to cover the main construction work needed to build the generating station. The General Civil Contractor will need Manitoba suppliers. While the turbine and generator contracts will likely go to an out-of-province company, subcontracts could be made to Manitoba firms. Competitive Manitoba companies could reap the benefits of the many Limestone subcontracts to be awarded.

To build the power station will take 600,000 cubic metres of concrete, 132,000 tonnes of cement, 27,000 tonnes of reinforcing steel, 1,500 tonnes of superstructural steel and much more. The year round catering operation will, in peak construction periods, need food to feed up to 1,400 people a day. Repairs to existing buildings and new buildings for the Limestone and Sundance campsites will be needed.

The scope of this large hydro project presents the biggest opportunity in the 1980's for Manitoba business.

Limestone Means Manitoba Opportunities

The Manitoba Government is committed to helping Manitoba businesses receive maximum benefits from Limestone construction. Manitoba firms have benefited in the past from Northern hydro development. Our government wants to increase those opportunities.

Working within the competitive tendering process, we hope to identify those opportunities and are investigating a number of options to maximize Manitoba opportunities.

It may be feasible to reduce the size of some tenders to make them more accessible to smaller size Manitoba companies. Perhaps providing early detailed information on the materials needed to build Limestone would help Manitoba firms identify opportunities. Perhaps our government could help Manitoba firms with financial or technical assistance to gear up or make the production changes needed to provide services or to produce a new product for Limestone. Suppliers' trade shows could also help maximize Manitobans' opportunities.

Limestone Means Northern Contract Opportunities

Your Government will do all that is possible to identify opportunities for Northern businesses. We are currently reviewing all Limestone contracts to see how this might be accomplished. At this stage, we can say that in the event of two or more equal bids on a particular contract, the Northern contractor will receive preference.

Various contracts and subcontracts will be available. Northern business should seriously consider the potential opportunities that Limestone will create.

Other Opportunities:

Numerous economic opportunities will flow from Limestone. With the increase in local employment, more money will be available for recreation, purchase of various goods and for travel. In addition to the increase in local employment, there will be an influx of workers from other parts of Manitoba. In combination, these factors will stimulate the hotel, recreation and travel businesses in several Northern centres.

Potential Opportunities from Northern Hydro Development

We would like your ideas on how to maximize opportunities for Manitobans. Please fill in this form and return it today.

NAME: _____

ADDRESS: _____

FIRM/ORGANIZATION: _____

TOWN/CITY: _____

PROVINCE: _____

DID THE MATERIAL IN THE PRESENTATION CONTAIN ENOUGH INFORMATION ON POTENTIAL OPPORTUNITIES?

_____

_____

WHAT OTHER KINDS OF INFORMATION WOULD BE USEFUL TO YOU? _____

_____

_____

WHAT LIMESTONE OPPORTUNITIES MOST INTEREST YOU? _____

_____

_____

DO YOU HAVE ANY SUGGESTIONS ON HOW THE PROVINCE CAN MAXIMIZE OPPORTUNITIES FOR MANITOBANS?

_____

_____

_____

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_____

PLEASE RETURN TO:
WILSON PARASIUK, MINISTER,
Manitoba Energy and Mines,
Room 301, Legislative Building
Winnipeg, Manitoba, Canada
R3C 0V8

Manitoba
Energy and Mines
Hon. Wilson D. Parasiuk
Minister